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SEQ	ID NO: 17	MQTPE-PFTDLEHEPH---TPLLDDHHNPPPQTTT---KPLFTRVVSGVTFVLFFF	60
SEQ	ID NO: 2	MTT-T-KPFDLLED-----APLNNHTEPPPPPPTAGRKRLLIKVVSVITLLILLIV-S	
SEQ	ID NO: 4	MTTPEQQPITDLEHEPNHNRTPLLDHNESQPVK-----KHLFFKVLSGVTFISLFFF	
SEQ	ID NO: 6		
	1		
		*****	
SEQ	ID NO: 17	IVFIVLNQQNSSVRIVTNSEKSFIRYSQTDRLSWERTA	61
SEQ	ID NO: 2	VIFF---LNQONSS-----HSTTNSKSIQSQSDRLLIWERTSFHFQPAKNEFYD	
SEQ	ID NO: 4	FLFIVLNQQNST-----NISVKYQSQSDRLLTWERTA	
SEQ	ID NO: 6	YHMFYQYNPYAPVWGNMSWGHHSVSKDMINWYELPVAMVPTEWYDIEGVLSGSGTTVL	
		YHMFYQYNPYAPVWGNMSWGHHSVSKDMINWYELPVAMVPTEWYDIEGVLSGSGTTVL	121
SEQ	ID NO: 17	YHMFYQYNPYAPVWGNMSWGHHSVSKDMINWYELPVAMVPTEWYDIEGVLSGSGTTVL	180
SEQ	ID NO: 2	YHMFYQYNPYAPVWGNMSWGHHSVSKDMINWYELPVAMVPTEWYDIEGVLSGSGTTVL	
SEQ	ID NO: 4	YHMFYQYNPYAPVWGNMSWGHHSVSKDMINWYELPVAMVPTEWYDIEGVLSGSGTTVL	
SEQ	ID NO: 6	IFALYTGNANDFSQLQCKAVPVNLSDPILLIEWVKYEDNPILYTPPGIGLKDYRDPSTVWT	
SEQ	ID NO: 2	IFALYTGNANDFSQLQCKAVPVNI SDPILLIEWVKYEDNPILYTPPGIGLKDYRDPSTVWT	
SEQ	ID NO: 4	IFALYTGNANDFSQLQCKAVPVNSSDPILLIEWVKYEDNPILYTPPGIGLKDYRDPSTVWT	
SEQ	ID NO: 6	-----TR--STVWT	

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SEQ ID NO: 17 GPDGKHRMIMGTKRGNTGMVLYYYTIDYTNYELLDEPLHSVPNTDMWECVDFYPVSLTND  
SEQ ID NO: 2 GPDGKHRMIMGSKRNKTGLVLVYHTTDFNTNYVMSDEPLHSVPNTDMWECVDFYPVSLTND  
SEQ ID NO: 4 GPDGKHRMIMGTKRGNTGMVLYYHTTDFNTYEMLNEPMHSVPNTDMWECVDFYPVSLTND  
SEQ ID NO: 6 GPDGKHRMIMGSKRGNTGMVLYYHTTDFNTYELLDEPLHSVPNTDMWECVDFYPVSLTND  
300  
241

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SEQ ID NO: 17 SALDMAAYGSGIKHVIKESWEGHGMDWYSIGTYDAINDKWTPELDVGIGLRCDYGRF  
SEQ ID NO: 2 SALDMAAYGSGIKHVIKESWEGHGMDWYSIGTYDASTDWKTPDNPKLDVGIGLRCDYGRF  
SEQ ID NO: 4 SALDIAAYGSGIKHVIKESWEGYGMDFYSIGTYDAFNDKWTPELDVGIGLRCDYGRF  
SEQ ID NO: 6 SALDMAAYGSGIKHVIKESWEGHGMDWYSIGTYDAINDKWTPELDVGIGLRCDYGRF  
360  
301

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SEQ ID NO: 17 FASKSLYDPLKKRRIIWGVYVGESESDSADQDLRGWATIVNVGRTIVLDRKTGTHILLHWPVE  
SEQ ID NO: 2 FASKSLFDPLKKRRIIWGVYVGESEDKPDQDLRGWATIVNVARTVVLDRKTGTHILLHWPVE  
SEQ ID NO: 4 FASKSIFDPVKKRRIIWVAYVGESESDNADDLDRKTGTHILLHWPVE  
SEQ ID NO: 6 FASKSLYDPLKKRRIIWVAYVGESESDSVDDQLSRGWATIVNVGRTIVLDRKTGTHILLHWPVE  
361  
301

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SEQ ID NO: 17 421  
SEQ ID NO: 2 420  
SEQ ID NO: 4 480  
SEQ ID NO: 6 421

FIG. 1B

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\* \* \* \* \* SLGAAQRGSLGPFGLAVIADGTLSELTPVYFYIAKKADGGVSTHFCTDKLRSSSLDYDGER  
SEQ ID NO: 17 SWGAAGRGRGSLGPFGVAVIADGTLSELTPVYFYIAKNTDGSVATHFCTDKLRSSSLDYDGER  
SEQ ID NO: 2 SSGAVERGSLGPFGLAVIADGTLSELTPVYFYIAKKADGGVSTHFCTDKLRSSSLDFDKER  
SEQ ID NO: 4 SSGAVERGSLGPFGLAVIADGTLSELTPVYFYIAKKADGGLSTHFCTDKLRSSSLDYDGOR  
SEQ ID NO: 6 SLGAAQRGSLGPFGLAVIADGTLSELTPVYFYIAKKADGGLSTHFCTDKLRSSSLDYDGOR  
540

\* \* \* \* \* VVYGGTVPVLDDEELTMRLLVVDHSIVEGFAQGGRTVITSRAYPTKAIYEQAKLFLFNNAT  
SEQ ID NO: 17 VVYGSTVPVLDGEELTMRLLVVDHSIVVEGFAQGGRTVITSRVYPTKAIYDNAKVFLENNAT  
SEQ ID NO: 2 VVYGSTVPVLDDEELTMRLLVVDHSIVVEAFAQGGRRIATTSRVYPTKAIYEGAKLFLFNNAT  
SEQ ID NO: 4 VVYGSTVPVLDDEELTMRLLVVDHSIVVEAFAQGGRRIATTSRVYPTKAIYEQAKLFLFNNAT  
SEQ ID NO: 6 VVYGSTVPVLDDEELTMRLLVVDHSIVVEGFAQGGRTVITSRVYPTKAIYEQAKLFLFNNAT  
541

\* \* \* \* \* GTSVKASLKIWQMASAPIHQYPPF-  
SEQ ID NO: 17 GTSVKASLKIWQMASAPIHQYPPF-  
SEQ ID NO: 2 GTSVKASLKIWQMASAPIHQYPL-  
SEQ ID NO: 4 DTSVKASLKIWQMASAQIHQYEFN  
SEQ ID NO: 6 GTSVKASLKIWQMASAQIHQYSF-  
601

624

FIG. 1C

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 SEQ ID NO: 21 MGSHGKPPPLPYAYKPLPSDAADGKRTGCMRWSACATVLTASAMAVVVVGATLLAGLRLMEQ  
 SEQ ID NO: 8 ---  
 SEQ ID NO: 10 ---  
 SEQ ID NO: 12 ---  
 SEQ ID NO: 20 MASESSRR ---  
 1 60

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 SEQ ID NO: 21 AVDEEEAAAGGFPWSNEMLQWQRSQYHfqTAKNYSMDPNGLMMYRGWYHMFYQYNPVGTDW  
 SEQ ID NO: 8 ---  
 SEQ ID NO: 10 ---  
 SEQ ID NO: 12 ---  
 SEQ ID NO: 20 --DEAAAG-FPWSNEMLQWQRSQYHfqTAKNYSMDPNGLMMYNGWYHMFQYNPVGTDW  
 61 120

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 SEQ ID NO: 21 DDGMEWGHAVSRNLVQWRRTLPIAMVADQWYDILGVLSGSMTVLPNGTVIMIYTGATNASA  
 SEQ ID NO: 8 ---TRWGHAVSRNLVTWRTLPIAMVADQWYDILGVLSGSMTVLPNGTVIMIYTGATNASA  
 SEQ ID NO: 10 ---ARD---  
 SEQ ID NO: 12 ---DILGVLSGSMTVLPNGTVIMIYTGATNASA  
 SEQ ID NO: 20 DDGMEWGHAVSRNLVTWRTLPIAMVADQWYDILGVLSGSMTVLPNGTVIMIYTGATNASA  
 121 180

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 SEQ ID NO: 21 VEVQCIATPADPNDPILLRWRWKHPANPVIWSSPPGVGTVKDFRDPMTAWYDESDDETWRLLG  
 SEQ ID NO: 8 ---EVQCIATPADPNDPFLRRWTKHPANPVIWSSPPGIGTKDFRDPMTAWYDESDDTWRTLLG  
 SEQ ID NO: 10 VEVQCIATPADPNDPFLRRWTKHPANPVIWSSPPGIGTKDFRDPMTAWYDESDDTWRTLLG  
 SEQ ID NO: 12 ---  
 SEQ ID NO: 20 VEVQCIATPADPNDPFLRRWTKHPANPVIWSSPPGIGTKDFRDPMTAWYDESDDTWRTLLG  
 181 240

FIG. 2A

Docket No: BB-1463  
 Title: Fructan Biosynthetic Enzymes  
 Inventor: Stephen M. Allen, et. al.  
 Appl. No.: Unknown  
 E. I. DuPont de Nemours

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SEQ ID NO: 21	SKDDHDGHHDGIAMMYKTKDFLNYELIPGILHRRVVRTGEWECLDFYPVGRRSSDNSSS ML	300
SEQ ID NO: 8	SKDDQDGHHDGIAMMYKTKDFLNYELIPGILHRRVVRTGEWECLDFYPVGRRSSDNSSS ML	
SEQ ID NO: 10	SKDDHDGHHDGIAMMYKTKDFLNYELIPGILHRRVVRTGEWECLDFYPVGRRSSDNSSS ML	
SEQ ID NO: 12	SKDDHDGHHDGIAMMYKTKDFLNYELIPGILHRRVVRTGEWECLDFYPVGRRSSDNSSS ML	
SEQ ID NO: 20	SKDDHDGHHDGIAMMYKTKDFLNYELIPGILHRRVVRTGEWECLDFYPVGRRSSDNSSS ML	
	241	
SEQ ID NO: 21	***** HVLKASMDDERHDYYSLGTYDQVWVQRTGEWECLDFYPVGRRSSDNSSS ML	360
SEQ ID NO: 8	***** HVLKASMDDERHDYYSLGTYDQVWVQRTGEWECLDFYPVGRRSSDNSSS ML	
SEQ ID NO: 10	***** HVLKASMDDERHDYYSLGTYDQVWVQRTGEWECLDFYPVGRRSSDNSSS ML	
SEQ ID NO: 12	***** HVLKASMDDERHDYYSLGTYDQVWVQRTGEWECLDFYPVGRRSSDNSSS ML	
SEQ ID NO: 20	***** HVLKASMDDERHDYYSLGTYDQVWVQRTGEWECLDFYPVGRRSSDNSSS ML	
	301	
SEQ ID NO: 21	***** RVLMGGYGEVDLSKRADVVKGWASIQSVPRVTLDEKTRTNLLLWVPEEETLRLNATELT	420
SEQ ID NO: 8	***** RVLMGGYGEVDLSKRADVVKGWASIQSVPRVTLDEKTRTNLLLWVPEEETLRLNATELT	
SEQ ID NO: 10	***** RVLMGGYGEVDLSKRADVVKGWASIQSVPRVTLDEKTRTNLLLWVPEEETLRLNATELT	
SEQ ID NO: 12	***** RVLMGGYGEVDLSKRADVVKGWASIQSVPRVTLDEKTRTNLLLWVPEEETLRLNATELT	
SEQ ID NO: 20	***** RVLMGGYGEVDLSKRADVVKGWASIQSVPRVTLDEKTRTNLLLWVPEEETLRLNATELT	
	361	
SEQ ID NO: 21	***** DVTINTGSVIIHPLRQGTQLDIEASFHLDASAVAALNEADVGYNCSGGAVNRGALGPF	480
SEQ ID NO: 8	***** DVTMNTGSVIIHPLRQGTQLDIEATFHLDASAVAALNEADVGYNCSGGAVNRGALGPF	
SEQ ID NO: 10	***** DVTINTGSVIIHPLRQGTQLDIEATFHLDASAVAALNEADVGYNCSGGAVNRGALGPF	
SEQ ID NO: 12	***** DVTINTGSVIIHPLRQGTQLDIEATFHLDASAVAALNEADVGYNCSGGAVNRGALGPF	
SEQ ID NO: 20	***** DVTINTGSVIIHPLRQGTQLDIEATFHLDASAVAALNEADVGYNCSGGAVNRGALGPF	
	421	

FIG. 2B

Docket No: BB-1463  
Title: Fructan Biosynthetic Enzymes  
Inventor: Stephen M. Allen, et. al.  
Appl. No.: Unknown  
E. I. DuPont de Nemours

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SEQ ID NO: 21 GLLVIAAGDRRGEQTAVYFYVSRGLDGGLHTSFCQDELRSSRAKDVTKRVIGSTVPVLDG  
SEQ ID NO: 8 GLLVIAAGDRRGEQTAVYFYVSRGLDGGLHTSFCQDELRSSRAKDVTKRVIGSTVPVLDG  
SEQ ID NO: 10 GLLVIAAGDRRGEQTAVYFYVSRGLDGGLHTSFCQDELRSSRAKDVTKRVIGSTVPVLDG  
SEQ ID NO: 12 -----  
SEQ ID NO: 20 GLLVIAAGDRRGEQTAVYFYVSRGLDGGLHTSFCQDELRSSRAKDVTKRVIGSTVPVLDG 540  
481

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SEQ ID NO: 21 EALSMRVLVDHSIVQGFDMGGRTTMTISRVVPMESYQEAVYLFNNNATGASVTAERLVVHE  
SEQ ID NO: 8 EAESMRVLVDHSIVQGFAAMGGRTTMTISRVVPMEAQEAKVYLFNNNATGASVMAERLVVHE  
SEQ ID NO: 10 EAESMRVLVDHSIVQGFAAMGGRTTMTISRVVPMEAQEAKVYLFNNNATGASVMAERLVVHE  
SEQ ID NO: 12 -----  
SEQ ID NO: 20 EAESMRVLVDHSIVQGFAAMGGRTTMTISRVVPMEAQEAKVYLFNNNATGASVTAERLVVHE 541  
600

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SEQ ID NO: 21 MDSAHNQLSNEDDGMYLHQVLESRH  
SEQ ID NO: 8 MDSAHNQLSNMDDYSYVQ-----  
SEQ ID NO: 10 MDSAHNQLSNMDDHSYVQ-----  
SEQ ID NO: 12 MDSAHNQLSNMDDYSYVQ-----  
SEQ ID NO: 20 MDSAHNQLSNMDDHSYVQ----- 625  
601

FIG. 2C

Docket No: BB-1463  
 Title: Fructan Biosynthetic Enzymes  
 Inventor: Stephen M. Allen, et. al.  
 Appl. No.: Unknown  
 E. I. DuPont de Nemours

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SEQ ID NO: 18	MAASSTTTPLILHDDPENLPELTGSPTTRRLSIAKVLSGILVSVLVI GALVALINNQTYESP-----	1	70
SEQ ID NO: 14	MAASSTTTSPPLILHDDPENLQEPTGFTGVRRPSIAKALCVTLVSVMVICGLVAVISNQTQVQVANSHQG		
SEQ ID NO: 16	MAASSTTTPLILHDDPENLPELTGSPTTRRLSIAKVLSGILVSVLVTCA		
	VALINNQTYEPP-----		
SEQ ID NO: 18	SATTFVTQLPNIDLKRVPGKLDSSAEEVWQRSTYHFQPDKNFISDPDGPMYHMGWYHFLFYQYNPQSAI	61	140
SEQ ID NO: 14	AAATTFTQQLPKIDMKRVPGEELSGADVQWQRSSAYHFQPDKNYIISDPDGPMYHMGWYHFLFYQYNPESAI		
SEQ ID NO: 16	AAATTFAATQQLPNIDLKRVPGKLDSSAEEVWQRSSAYHFQPDKNFISDPDGPMYHMGWYHFLFYQYNPESAI		
SEQ ID NO: 18	NITWGHHSVSKDMINWFHLPFAMVPDHWYDIEGVMTGSATVLPNGQIIMLYSGNAYDLSQVQCLAYAVN	141	210
SEQ ID NO: 14	NITWGHHSVSKDMINWFHLPFAMVPDHWYDIEGVMTGSATVLPNGEIIIMLYTGNAIYDLSQVQCLAYAVN		
SEQ ID NO: 16	NITWGHHSVSKDMINWFHLPFAMVPDHWYDIEGVMTGSATVLPNGQIIMLYTGNAIYDLSQVQCLAYAVN		
SEQ ID NO: 18	DPLLEWKKYEGNPVIIILPPPGVGYKDFRDPSTLWSGPDGEYRVMGSKHNETIGCALIYHTTNFTFELK	211	280
SEQ ID NO: 14	DPLLEWKKYEGNPVIIILPPPGVGYKDFRDPSTLWLGPDGEYRVMGSKHNETIGCALIYHTTNFTFELN		
SEQ ID NO: 16	DPLLEWKKYEGNPVIIIFPPPGVGYKDFRDPSTLWLGPDGEYRVMGSKHNETIGCALIYHTTNFTFELK		
SEQ ID NO: 18	EEVLHAVPHTGMWECVLDLYPVSTVHTNGLDMGPNVKYVLLQSGDDEDRHDWYAIGSYDIVNDK	281	350
SEQ ID NO: 14	EEVLHAVPHTGMWECVLDLYPVSTHTNGLDMGPNVKYVLLQSGDDEDRHDWYAIGSYDVNDK		
SEQ ID NO: 16	EEVLHAVPHTGMWECVLDLYPVSTVHTNGLDMGPNVKYVLLQSGDDEDRHDWYAIGSYDVNDK		

FIG. 3A

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SEQ	ID NO:18	PENDVGIGLRYDFGKFYASKTFYDQHKKRRLVWGYVGETDPQKYDLSKGWANILNIPRTVVLDDLETKTNLIQ	422
SEQ	ID NO:14	PENDVGIGLRYDFGKFYASKTFYDQHKKRRLVWGYVGETDPQKYDLSKGWANILNIPRTVVLDDLETKTNLIQ	
SEQ	ID NO:16	PENDVGIGLRYDFGKFYASKTFYDQHKKRRLVWGYVGETDPQKYDLSKGWANILNIPRTVVLDDLETKTNLIQ	
	351		
	351		
SEQ	ID NO:18	WPIEETENLRSKYDEFKDVELRPCALVPLEIGTATQLDIVATFELDQKMLESTLEADVLFNCTTSEGSVAR	423
SEQ	ID NO:14	WPIEETEKLRSKYDKFVDELRPCSLIPLEIGTATQLDIVATFELDQMMILESTLEADVLFNCTTSEGSVAR	
SEQ	ID NO:16	WPIEETENLRSKYDEFKDVELRPCALVPLEIGTATQLDIVATFELDQKMLESTLEADVLFNCTTSEGSVAR	
	351		
SEQ	ID NO:18	SVLGPFGVVVLADAQRSSEQLPVYFYIAKDIIDGTSRTYFCADETRSSKDVSVGKWWYGGSSVPVLPGEKYNMRL	495
SEQ	ID NO:14	GVLGPFGVVVLADAQRTTEQLPVYFYIAKDTDGTTSRTYFCADETRSSKDVSVGKWWYGGSSVPVLPGEKYNMRL	
SEQ	ID NO:16	GALGPFGVVVLADAQRSSEQLPVYFYIAKDIIDGTSRTYFCADETRSSKDVSVGKWWYGGSSVPVLPGEKYNMRL	
	351		

SEQ ID NO: 18	LVDHSIVEGFAQNGRTTVVTSRVYPTKAIYNAAKVFLNNATGIVSVKASIKIWKMGAEELNPFPLPGWTFFEL
SEQ ID NO: 14	LVDHSIVEGFAQNGRTTVVTSRVYPTKAIYNAAKVFLNNATGIRVKASVWKMAEAELNPFPVVTGWT\$--
SEQ ID NO: 16	LVDHSIVEGFAQNGRTTVVTSRVYPTKAIYNAAKVFLNNATGIVSVKASIKIWKMAKAELNPFPLPGWTFFEL

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